AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1.   (Currently Amended) A method [[of]] for processing an original color image ~~processing~~, the method comprising the following steps:

   (a) converting [[a]] the original color image represented by components H, S, and V, or components H, L, and S into an intermediate image ~~having components that depend~~ represented by components X and Y; wherein components X and Y depend solely on the H and S components of the original color image~~; in an HSV or HLS representation; the intermediate image having two~~ wherein components X and Y are ~~determined by~~ functions ~~especially~~ of the H component determined by~~;, these functions taking the same value when the H component is zero or equal to one;~~

   $X = G_X(H)$ and $Y = G_Y(H)$;

   wherein these functions verify the following relationships:

   $G_X(0) = G_X(1)$ and $G_Y(0) = G_Y(1)$;

   (b) generating a new monochromatic image from the intermediate image; wherein the intermediate image is represented only by a component D1; wherein D1 is a function of components X and Y of the intermediate image.
   ~~generating a new image having only one component from the intermediate image, the component of this new image being a function of the components of the intermediate image.~~

2.   (Currently Amended) The method ~~of color image processing~~ according to ~~the preceding~~ claim 1, wherein [[the]] components X and Y are <u>functions of the H and S components determined by:</u>~~determined by functions not only of the H component, but also of the S component, these functions tending towards zero when the S component tends towards zero.~~

<u>G'$_X$(H,S) and G'$_Y$(H,S),</u>

<u>these functions verify the following relationships:</u>

<u>G'$_X$(0,S) = G'$_X$(1,S) and G'$_Y$(0,S) = G'$_Y$(1,S)</u>

$$\underset{S \to 0}{\underline{G_X^{'}(H,S) \to 0}} \; \underline{and} \; \underset{S \to 0}{\underline{G_Y^{'}(H,S) \to 0}}$$

3.   (Currently Amended) The method ~~of color image processing~~ according to claim 2, wherein <u>G'$_X$(H,S) and G'$_Y$(H,S)</u> ~~the functions of the component S~~ are monotonic and continuous functions <u>of the S component</u>.

4.   (Currently Amended) The method ~~of color image processing~~ according to claim 1, wherein the new image is generated ~~in keeping only the first component of~~ <u>by applying</u> [[the]] <u>a</u> Karhunen-Loève transformation, or a linear approximation of this transformation[[.]]<u>, to the intermediate image and using only the most discriminatory component D1 to represent the new image.</u>

5.   (Currently Amended) <u>A method for processing an original color image, the method comprising the following steps:</u>
        <u>(a) converting the original color image into an intermediate image having components that depend solely on H and S components of the original color image in an HSV or HLS representation;</u>
        <u>wherein the intermediate image comprises two components X and Y, determined by functions of the H component, theses functions take the same value when the H component is zero or equal to one;</u>

(b) generating a new image having only one component from the intermediate image; wherein the component of this image being a function of the components of the intermediate image

~~The method of color image processing according to claim 1,~~ wherein the new image is generated by projecting the components of the intermediate image in [[the]] a plane in which [[the]] a dynamic range or mean standard deviation is the greatest.

6.　　(Currently Amended) The method ~~of color image processing~~ according to claim 1, wherein a filtering is performed on the darkest and the lightest pixels, which represent a determined fraction of the total number of pixels of the image.

7.　　(Currently Amended) The method ~~of color image processing~~ according to claim 5, wherein the dynamic range of the new image is adjusted to [[the]]a total available dynamic range.

8.　　(New) The method according to claim 1, wherein $G_X(H)$ and $G_Y(H)$ are defined by:

$$GX(H) = \cos(2\pi H - \varphi) \text{ and } GY(H) = \sin(2\pi H - \varphi);$$

where φ is a constant.

9.　　(New) The method according to claim 3, wherein the new image is generated by applying a Karhunen-Loève transformation, or a linear approximation of this transformation, to the intermediate image and using only the most discriminatory component D1 to represent the new image.

10.　　(New) The method according to claim 3, wherein the new image is generated by projecting the components of the intermediate image in the plane in which the dynamic range or mean standard deviation is the greatest.

11.   (New) The method according to claim 1, wherein the new monochromatic image
       is generated from a combination of an image having components X and Y with
       additional texture attributes of the image having components X and Y.